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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,530	04/29/2005	Gregorios Kolios	18744-0029	2549

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ATLANTA, GA 30309

EXAMINER
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BARTS, SAMUEL A

ART UNIT	PAPER NUMBER
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1621

MAIL DATE	DELIVERY MODE
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09/20/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/519,530	<b>Applicant(s)</b> KOLIOS ET AL.	
	<b>Examiner</b> Samuel A. Barts	<b>Art Unit</b> 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on 13 August 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 1, 18, 20 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-17, 19, 21 and 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election with traverse of Group II, claims 2-17, 19, 21 and 23 in the reply filed on 8/13/2007 is acknowledged. The traversal is on the ground(s) that search of invention I would not be a serious burden to the examiner. This is not found persuasive because prior art anticipating claims of invention I would not necessarily render obvious the claims of invention II. The additional search would be a serious burden to the examiner.

The requirement is still deemed proper and is therefore made FINAL.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2-17, 19, 21 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are confusing and unclear.

a) In claim 2 what is meant by "a regeneration step"? Is the regeneration step actually the step of heating the ammonium salt by-products to a temperature  $\geq 150^{\circ}\text{C}$ ?

b) In claim 5 it is unclear what compounds fall under the general formula X-N-Y because the formula doesn't account for all substituents. For example the formula Si-N-Si would require additional substituents on the silicon and nitrogen atoms to be a compound.

c) In claim 6 it is unclear how the general formula (I) further limits the general formula X-N-Y of claim 5.

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d) In claims 21 and 23 the phrase "the first reaction step" lacks antecedent basis.

Applicant is required to make the appropriate corrections.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 2-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Hey (EP 636704).

The instant claims are drawn to removing ammonium salts formed in a reaction by heating the ammonium salts to a temperature  $\geq 150^{\circ}$  C. Hey discloses this step is example 1.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-17, 19, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hey (EP 636,704).

The instant claims are drawn to removing ammonium salts formed as by-products by heating the ammonium salts to a temperature  $\geq 150^{\circ}$  C. The dependent claims more specifically defined the processes in which the ammonium salts are formed as by-products. Please note that

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the essence of the claimed invention is that ammonium salts are removed in the gaseous form before they are deposited as unwanted by-products in the reaction process.

Hey teaches that it was known, prior to this application being filed for a patent, that ammonium salts which were formed as by-products could be removed in the gaseous form. Thus the instant claims differ from the prior art by being directed to the removal of ammonium salts, which are formed as by-products in processes not explicitly shown in Hey.

This difference is found not to be patentable since it would have been obvious for a skilled artisan at the time that applicant's invention was made to have used the technique of Hey in other processes where it was recognized that ammonium salts were unwanted by-products. The claims are obvious because the design incentive provides a reason to make an adaptation and the invention resulted from application of the prior knowledge in a predictable manner. The market forces clearly dictate that a skilled artisan would desired to remove unwanted by-products in an efficient and beneficial manner. Hey provides a skill artisan with the knowledge of how to remove ammonium salts that are formed as by-products.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel A. Barts whose telephone number is 571-272-2870. The examiner can normally be reached on 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Samuel A Barts/  
Primary Examiner  
Art Unit 1621

SB